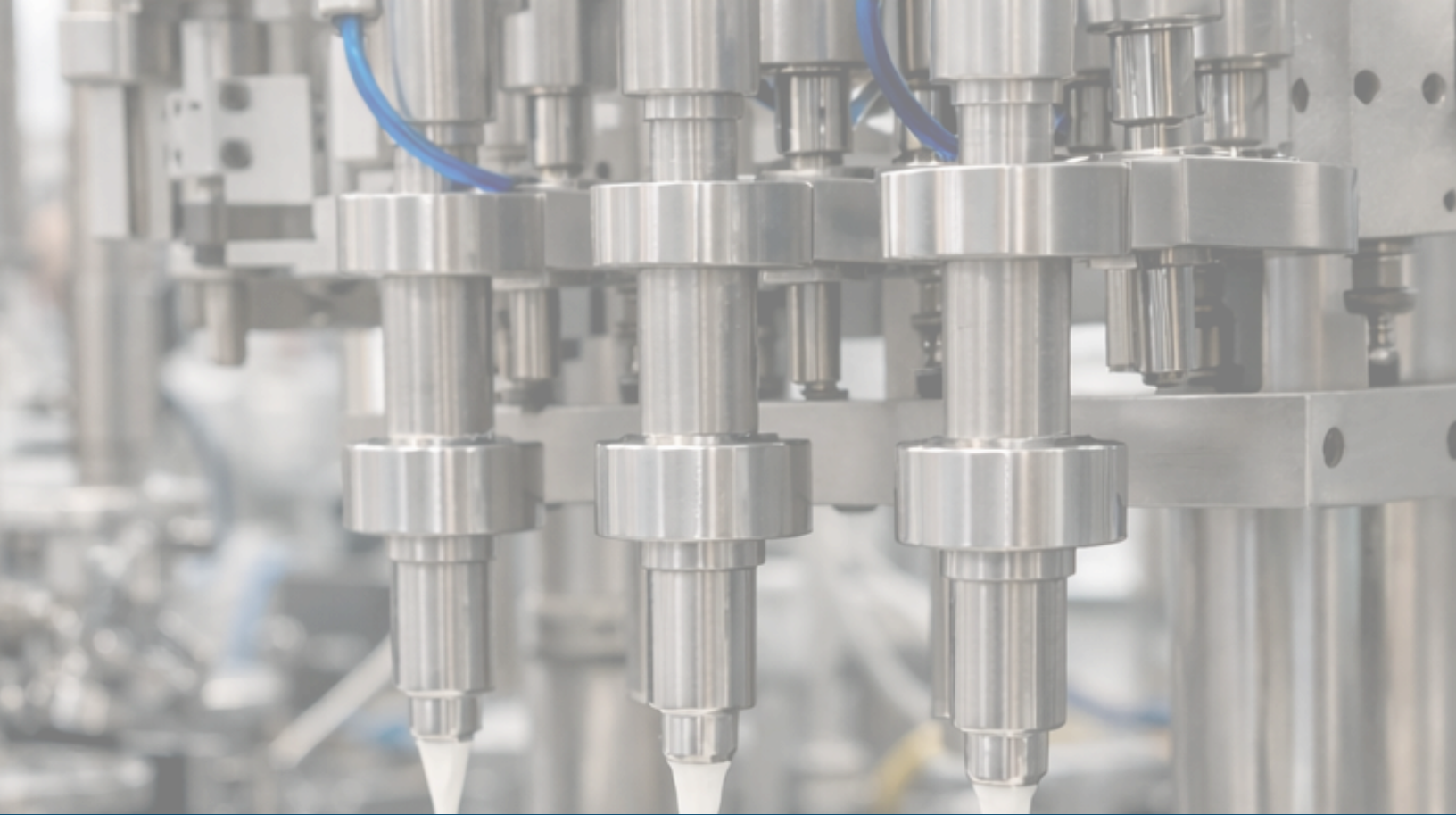
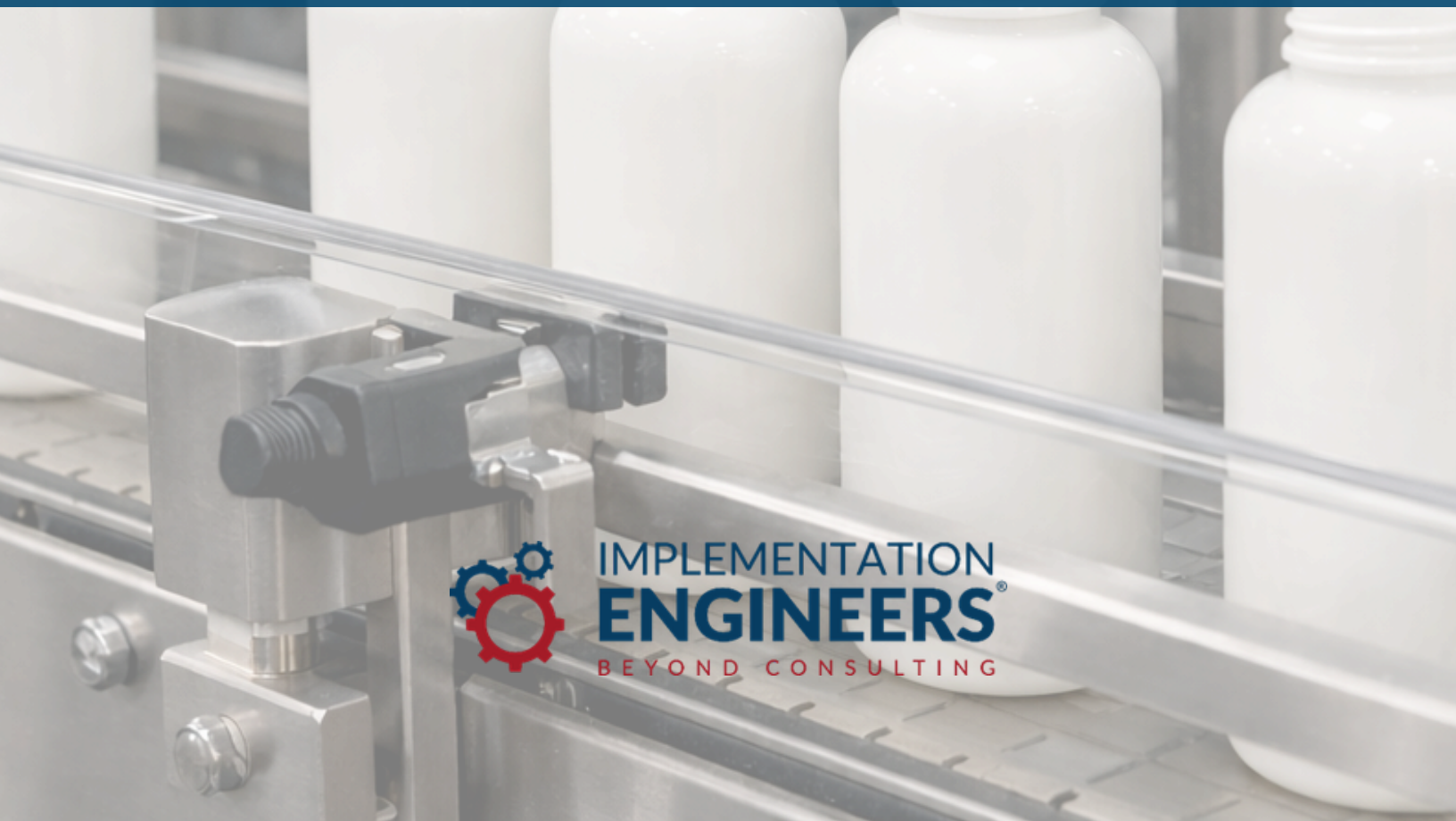




IX[®] Case Study

**Digitizing Shop Floor Reporting and Execution with Tulip to
Deliver \$5.2M in Value**



**IMPLEMENTATION
ENGINEERS[®]**
BEYOND CONSULTING

**\$5.2M**annualized
financial benefit

A leading cosmetics manufacturer, backed by private equity, was seeking to improve performance across its production operations. The business had strong demand and sufficient installed capacity, but inconsistent execution, limited data visibility, and fragmented processes were preventing it from achieving target throughput and cost performance.

Where Performance Was Breaking Down

- Inconsistent production performance and missed output targets
- Long changeovers and avoidable downtime
- Ineffective production planning and scheduling discipline
- Heavy reliance on manual data entry and paper-based processes
- Limited real-time visibility into operations and performance drivers
- Communication gaps across shifts and departments
- Disconnected systems (ERP, shop floor, reporting) limiting decision-making

Operational Execution

Operational Execution

- Led SMED workshops to reduce changeover time and increase line availability
- Targeted downtime reduction across startups, maintenance, and micro-stops
- Executed Rapid Improvement Events (RIE) and DMAIC projects to eliminate bottlenecks

Planning & Scheduling

- Implemented Master Production Scheduling (MPS)
- Established job sequencing rules and Plan for Every Part
- Integrated changeovers into daily schedules to improve predictability

Inventory & Material Flow

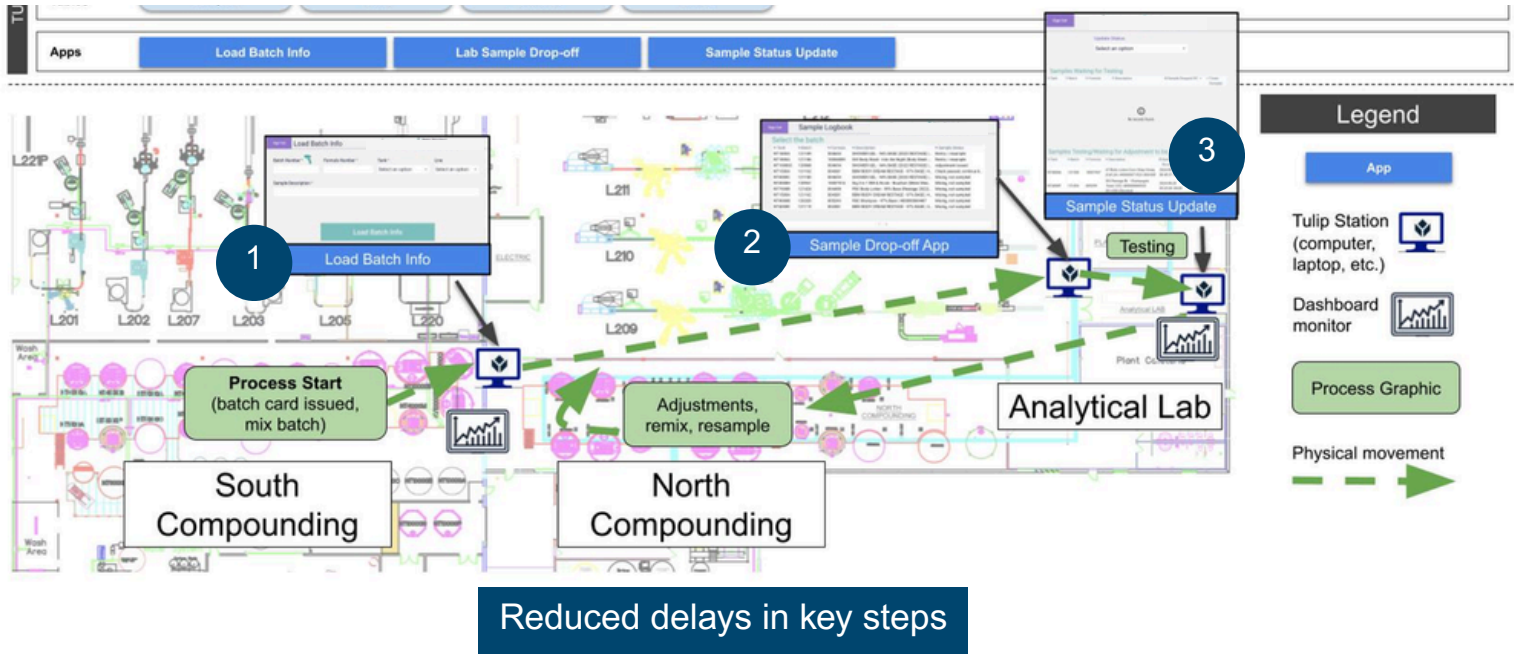
- Reduced inventory fragmentation and improved transaction discipline
- Implemented cycle counting with root cause analysis
- Improved material flow to support production stability

Tulip Deployment (Digital Manufacturing Execution)

To close execution gaps on the shop floor, Implementation Engineers deployed Tulip as a composable MES layer, enabling real-time data capture, visibility, and workflow automation across the value stream.

- Replaced **paper logbooks** with digital shop floor applications
- Built **real-time production tracking apps** for batch and line visibility
- Integrated **ERP data and barcode scanning** to eliminate manual entry and improve data accuracy
- Automated **data collection and workflows**, reducing delays between departments
- Standardized **digital handoffs across shifts**, improving communication and alignment
- Enabled **operators and supervisors to act on real-time data**, not delayed reports
- Trained site teams to **build and scale Tulip applications**, creating a repeatable digital foundation

Tulip Deployment (Digital Manufacturing Execution)



1

Sign Out Load Batch Info

Batch Number * Formula Number * Tank * Line

Sample Description *

Load Batch Info

Load Batch Info View Batches in Compounding View Samples at the Lab View Samples Waiting on Compounding Action

2

Add Samples

Scan barcode to populate form data from Epicor

Batch Number * 1234982

Formula # * 10028812

Sample Description * FG Shower

Barcode scanning avoids data entry errors and leverages ERP system data

COMPANY: Bath & Body Works Order #: 109042

PRODUCT: Sig. Body Cream - Lovely Dreamer BATCH #: 109042 FORMULA #: 10004950

+ Add Sample

Lab notified by email and text message when sample is delivered

Timestamp and person submitting sample is recorded automatically

3

Samples waiting for testing

Batch Number	Sample Status	Priority	Minutes Waiting	Sample Source	Tank
1238121	Waiting for testing	1	16	Production	NT1234C
999123	Waiting for testing	1	4	Compounding	NT4400B

Samples in testing

Batch Number	Sample Status	Priority	Minutes Waiting	Tank Number
123124	In testing	1	8	NT8080A
1234567	In testing	2	11	NT7000Z

Update Status In testing

Cycle time data is automatically captured at every step of the process

Text message automatically sent to appropriate parties when tests are complete

Summary performance metrics updated in real-time, with trends available on separate dashboard page

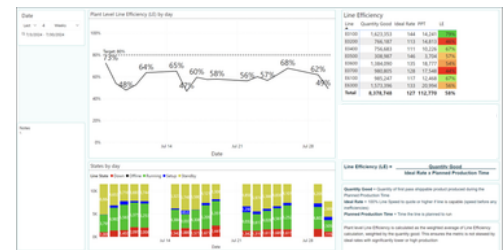
Samples Tested Today 7

Avg Cycle Time 35

Operational Execution

Connected Data & Performance Visibility

- Integrated ERP and shop floor data into a centralized data layer
- Developed Power BI dashboards with automated refresh for shift, daily, and weekly performance
- Enabled real-time filtering and analysis, reducing time spent gathering data



Management Operating System (MOS)

- Implemented tiered meetings (Tier 1–5) driven by real-time data
- Deployed Leader Standard Work and Gemba routines
- Built KPI trees aligned to operational targets
- Standardized cross-shift communication and escalation processes



Line Efficiency, Changeover & Downtime
Code Compliance Power BI reports
developed and implemented

Results

- **22%** reduction in direct labor cost per unit
- **\$5.2M** in annualized cost savings
- Improved **throughput and line efficiency**
- Reduced **changeover time and production downtime**
- Faster decision-making through **real-time visibility**
- Shift from **manual, reactive execution to digital, structured operations**

Let's Turn Your Vision into Results

At Implementation Engineers, we don't just execute projects - we transform your vision into operational reality. Our proven 3-phase approach - **Align, Design, Execute** - delivers lasting value, from aligning your team on strategic goals to optimizing operations and driving measurable outcomes. Whether you're aiming to lead your market, boost efficiency, or maximize shareholder value, we're here to make it happen, step-by-step, side-by-side.

Ready to Get Started?

Let's explore how we can bring your vision to life. Contact us today to schedule a conversation. Together, we'll chart the path to your success.

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